

1. A shelf stable haze free liquid of an overbased alkaline earth metal salt of a fatty acid comprising

an alkaline earth metal salt from the group consisting of carbonate, sulfate, sulfide and sulfite,

5 an alkaline earth metal carboxylate of a fatty acid,

a liquid hydrocarbon, and

an aliphatic alcohol having at least 8 carbon atoms, said liquid being essentially free of a phenol or phenolic derivative.

2. The shelf stable haze free liquid of claim 1 wherein said fatty acid is a C<sub>12</sub>-C<sub>22</sub> fatty acid.

3. The shelf stable haze free liquid of claim 1 wherein said fatty acid is oleic acid.

4. The shelf stable haze free liquid of claim 1 wherein said alkaline earth metal is selected from the group consisting of calcium, barium, magnesium and strontium.

5. The shelf stable haze free liquid of claim 1 wherein said alkaline earth metal is calcium.

6. The shelf stable haze free liquid of claim 1 wherein the overbased alkaline earth salt is calcium oleate/carbonate.

7. The shelf stable haze free liquid of claim 1 which is a microemulsion having

micells of the alkaline earth metal carbonate and an alkaline earth metal carboxylate of a fatty acid, and

5 a continuous phase of the liquid hydrocarbon and the aliphatic alcohol.

8. The shelf stable haze free liquid of claim 1 wherein the alcohol has 8 to 14 carbon atoms.

9. The shelf stable haze free liquid of claim 1 wherein said alcohol is selected from the group of isodecanol, dodecanol, octanol, tridecanol and tetradecanol, and mixtures thereof.

10. The shelf stable haze free liquid of claim 9 which further contains a glycol or a glycol ether.

11. The shelf stable haze free liquid of claim 10 wherein the glycol or glycol ether is selected from the group consisting of diethylene glycol monobutyl ether, triethylene glycol, dipropylene glycol, diethylene glycol monomethyl ether, ethylene glycol monobutyl ether, and mixtures thereof.

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12. The shelf stable haze free liquid of claim 1 containing about 4% up to about 36% by weight of alkaline earth metal.

13. The shelf stable haze free liquid of claim 12 wherein the alkaline earth metal is calcium which is contained in an amount of about 9% to about 15% by weight.

14. A shelf stable haze free liquid of an overbased calcium salt of a fatty acid comprising

calcium carbonate,

calcium carboxylate of a fatty acid,

5 a liquid hydrocarbon, and

an aliphatic alcohol having at least 8 carbon atoms.

15. The shelf stable haze free liquid of claim 14 which is essentially free of a phenol or phenolic derivative.

16. The shelf stable haze free liquid of claim 14 wherein the liquid hydrocarbon is an oil.

17. The shelf stable haze free liquid of claim 14 wherein the liquid hydrocarbon is selected from the group consisting of an oil, mineral spirits and non-aromatic hydrocarbons.

18. The shelf stable haze free liquid of claim 14 wherein said fatty acid is a  $C_{12}$ - $C_{22}$  fatty acid.

19. The shelf stable haze free liquid of claim 14 wherein said fatty acid is oleic acid.

20. The shelf stable haze free liquid of claim 14 which is a microemulsion having

micells of the alkaline earth metal carbonate, and an alkaline earth metal carboxylate of a fatty acid, and

5 a continuous phase of the liquid hydrocarbon and the aliphatic alcohol.

21. The shelf stable haze free liquid of claim 14 wherein said alcohol is isodecanol.

22. The shelf stable haze free liquid of claim 20 wherein the continuous phase further contains a glycol or a glycol ether.

23. The shelf stable haze free liquid of claim 22 wherein the glycol or glycol ether is selected from the group consisting of diethylene glycol monobutyl ether, triethylene glycol, dipropylene glycol, diethylene glycol monomethyl ether, ethylene glycol monobutyl ether, and mixtures thereof.

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24. The shelf stable haze free liquid of claim 14 containing about 4% up to about 36% by weight calcium.

25. The shelf stable shelf stable haze free liquid of claim 14 wherein calcium is contained in an amount of at least about 9% to about 15% by weight.

26. A process for preparing a shelf stable haze free liquid of an overbased alkaline earth metal salt of a fatty acid comprising

reacting an alkaline earth metal base and a fatty acid with an equivalent ratio of metal base to fatty acid being greater than 1:1 in  
5 the presence of liquid hydrocarbon,

carbonating the mixture to produce amorphous alkaline earth metal carbonate,

adding during carbonation a dispersion of alkaline earth metal base, a liquid hydrocarbon and an aliphatic alcohol having at least 8  
10 carbon atoms in relative amounts at a controlled rate of alkaline earth metal base addition to produce a stable haze free liquid reaction product, and

removing water from the reaction product to obtain a shelf stable haze free liquid overbased alkaline earth metal salt.

27. The process of claim 26 further comprising filtering the liquid reaction product to produce a thermodynamically stable liquid at a product filtration rate of at least about 300 ml per 10 minutes.

28. The process of claim 26 wherein said fatty acid is a C<sub>12</sub>-C<sub>22</sub> fatty acid.

29. The process of claim 26 wherein said fatty acid is oleic acid.

30. The process of claim 26 wherein water is removed to provide a microemulsion product having less than about 1% by weight water of the total product.

31. The process of claim 26 wherein said alkaline earth metal is selected from the group consisting of calcium, barium, magnesium and strontium.

32. The process of claim 26 wherein said alkaline earth metal is calcium.

33. The process of claim 26 wherein the overbased salt is calcium oleate/carbonate.



34. The process of claim 26 to produce the overbased salt which is essentially free of a phenol or phenolic derivative.
35. The process of claim 26 wherein said aliphatic alcohol has 8 to 14 carbon atoms.
36. The process of claim 35 wherein the alcohol is isodecanol.
37. The process of claim 36 wherein the continuous phase further contains a glycol or a glycol ether.
38. The process of claim 37 wherein the glycol or glycol ether is selected from the group consisting of diethylene glycol monobutyl ether, triethylene glycol, dipropylene glycol, diethylene glycol monomethyl ether, ethylene glycol monobutyl ether, and mixtures thereof.
39. The process of claim 26 by reacting on the basis of the final reaction mixture an amount of an alkaline earth metal base selected from the group consisting of about 15-30% calcium hydroxide, about 12-24% magnesium hydroxide, about 25-50% strontium hydroxide, and about 5 35-50% barium hydroxide, and mixtures thereof.

40. The process of claim 39 wherein the alkaline earth metal base is calcium hydroxide and the fatty acid is oleic acid.

41. The process for preparing a shelf stable haze free liquid of an overbased calcium oleate/carbonate comprising
- reacting calcium hydroxide base and oleic acid with an equivalent ratio of the base to the acid being greater than 1:1 in the
- 5 presence of a mixture of liquid hydrocarbon and catalyst,
- carbonating the mixture to produce amorphous calcium carbonate,
- adding during carbonation a dispersion of calcium hydroxide, liquid hydrocarbon and cosurfactant aliphatic alcohol having at least 8
- 10 carbon atoms in relative amounts at a controlled rate of calcium hydroxide addition to produce a stable haze free liquid reaction product, and
- removing water from the reaction product to provide a shelf stable haze free overbased calcium oleate/carbonate.

42. The process of claim 41 comprising the further step of filtering the liquid reaction product to remove byproducts or impurities.
43. The process of claim 41 which is conducted essentially free of a phenol or a phenolic derivative.
44. The process of claim 41 wherein the catalyst is selected from the group consisting of propionic acid, citric acid, acetic acid and adipic acid.
45. The process of claim 41 wherein the surfactant is calcium oleate borne by the reaction of the base and the oleic acid *in situ*.
46. The process of claim 41 wherein the cosurfactant is an aliphatic alcohol having 8 to 14 carbon atoms.
47. The process of claim 46 wherein the alcohol selected is isodecanol in the presence of diethylene glycol monobutyl ether and triethylene glycol.
48. The process of claim 46 wherein the haze free liquid calcium oleate is a microemulsion having amorphous calcium carbonate within the micelles of the microemulsion.

49. The process of claim 41 wherein after the addition of the dispersion and carbonation with carbon dioxide the mixture contains

about 15-30% calcium oleate,

about 9-35% calcium carbonate,

5 about 30-35% hydrocarbon oil,

about 15-18% idodecanol, and

about 4-6% glycol or glycol ether.

50. The process of claim 49 wherein the dispersion contains about 40-50% calcium hydroxide, about 25-40% hydrocarbon oil, about 10-25% isodecanol and about 0-10% glycol or glycol ether.

51. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 1.

52. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 2.

53. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 3.

54. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 4.

55. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 5.

56. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 6.

57. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 8.

58. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 10.

59. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 11.

60. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 12.

61. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 13.

62. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 15.

63. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 16.

64. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 17.

65. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 18.

66. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 24.

67. A halogen-containing polymer composition comprising a halogen-containing polymer and a heat stabilizing amount of the liquid of claim 25.

68. A mixed metal stabilizer composition for a halogen-containing polymer comprising

a metal compound stabilizer selected from the group consisting of compounds of antimony, barium, calcium, cadmium, zinc, lead, strontium, bismuth and tin, and mixtures thereof, and

a shelf stable haze free liquid of claim 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 24, and 25, said metal compound stabilizer and liquid in relative amounts for stabilizing said polymers.



69. A mixed metal stabilizer composition for a halogen-containing polymer comprising a metal compound stabilizer and a shelf stable haze free liquid of calcium oleate/carbonate, said stabilizer and liquid in relative amounts for stabilizing said polymer.